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What Do We Know About China's CEO's? Evidence from Across the Whole Economy

Alex Bryson
John Forth
Minghai Zhou

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Abstract

All that we know about the CEO labour market in China comes from studies of public listed companies and state-owned enterprises (SOEs). This paper is the first to examine the operation of the CEO labour market across all sectors of the Chinese economy. We do so using World Bank enterprise data for the first part of the 21st Century. Incentive schemes are commonplace throughout the economy and include contracts linking CEO pay directly to firm performance, annual bonus schemes, the posting of performance bonds, and holding company stock. These incentive mechanisms appear to complement rather than substitute for one another. The elasticity of pay with respect to company performance is one or more in two-fifths of the cases where CEO's have performance contracts, suggesting many face high-powered incentives. CEO's also face a real dismissal threat and financial penalties if they fail to deliver. Incentive contracts are used to attract the most talented executives, as indicated by educational attainment and position in the Communist Party. However, government involvement in the appointment of a CEO reduces the likelihood that the CEO will receive an incentives-based contract, perhaps because governments appoint "bureaucrats" to perform roles which incorporate social and political as well as economic goals. Firms with good corporate governance are more likely to deploy incentive contracts. A picture emerges of a well-functioning labour market for executives in China that exhibits many of the traits common to CEO labour markets in the West.

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Alex Bryson is a Visiting Research Fellow at the Centre for Economic Performance, London School of Economics and Political Science. He is also Director of Employment Relations Research at the National Institute of Economic and Social Research (NIESR). John Forth is a Research Fellow at the National Institute of Economic and Social Research (NIESR). Minghai Zhou is with the College of Economics, Zhejiang University, China.

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1. Introduction

A market for corporate executives started to emerge in China in the 1980s as a result of government initiatives to reform State Owned Enterprises (SOEs). Prompted by career incentives to enhance the productivity and performance of SOEs, local government officials opened up competition for CEO posts in SOEs through auctions for managerial contracts (Xu, 2011). These contracts offered CEO's greater autonomy in corporate decision-making and replaced direct control from above with managerial incentives (Groves, 1995: 874). The market for corporate executives received a further fillip with the programme of privatisation which followed in the 1980s and, by the late 1990s, the emergence of a public listed sector. While the early literature on CEO's in China was confined to SOEs, the recent literature is dominated by studies examining executive pay in the listed company sector (Bryson et al., 2012a; Conyon and He, 2012). However, the vast majority of all firms in China are not listed and they only account for a small proportion of all workers. At the time our data were collected in 2005, roughly 418.6 million workers worked in non-agriculture firms, whereas only 5-6 million workers worked in listed firms.[1] So the picture listed firms paint of the executive labour market is incomplete and does not reflect the labour market circumstances and compensation arrangements that obtain in most firms in China and for most CEO's.

We fill this gap in the literature by examining the executive labour market and CEO compensation across the whole industrial sector in China. We do so with World Bank Enterprise Data from surveys conducted in 2003 and 2005[2], two decades after the initial market-inspired reforms and a phenomenal period of economic growth. We consider whether CEO selection in China is a meritocratic or largely bureaucratic exercise, describing how China's CEO's are appointed, who makes the decisions, who the CEO's are and where they come from. Then we examine how CEO's are paid, focusing primarily on the incidence and correlates of various aspects of CEO incentives. We find incentive schemes are commonplace and include contracts linking CEO pay directly to firm performance, annual bonus schemes, the posting of performance bonds, and holding company stock. These incentive mechanisms appear to complement rather than substitute for one another. The elasticity of pay with respect to company performance is one or more in two-fifths of the cases where CEO's have performance contracts, suggesting many face high-powered incentives. CEO's also face a real dismissal threat and financial penalties if they fail to deliver. In keeping with the Western literature, incentive contracts attract better workers, as indicated by education and one's position in the Communist Party. Foreign owned firms are less likely than state-owned and domestic privately owned firms to use incentive contracts. However, where government is involved in the CEO's appointment in a domestic firm, the CEO is less likely to have pay linked to firm performance. Good corporate governance and incentive contracts are positively correlated, suggesting complementarity. A picture emerges of a well-functioning labour market for executives in China that exhibits many of the traits common to CEO labour markets in the West.

2. Who are China's CEO's and how are they appointed?

The standard principal-agent problem described in the CEO compensation literature assumes CEO's are recruited to maximise shareholder value by raising the profitability of the firm but

[1] Estimates for the non-listed sector are based on China's Statistical Yearbook. Those for the listed sector are the authors' estimates based on CSMAR financial accounts data.

[2] See the Appendix for descriptions of the two data sets.

that, in the absence of perfect monitoring, CEO's may invest time in improving their own future career prospects, perhaps to the detriment of the firm (Holmström and Milgrom, 1991). Shareholders therefore use incentive mechanisms and the threat of dismissal to hold CEO's accountable.[3]

The existing empirical evidence on the use of incentive mechanisms is focuses on the US and other Western economies (see, for example, Conyon et al, 2012). The Chinese setting is different in two fundamental ways. First, ownership is more concentrated than in the West: in two-thirds (68%) of our 2005 survey the firm had a single owner. This increases both the incentive and, arguably, the ability of the owner to monitor top executives' behaviour and performance relative to the scenario in which the CEO is accountable to multiple owners.

Second, the state and economic activity are inextricably linked in China. The state owns a substantial part of the corporate sector in China. Despite divesting itself of many previously state owned enterprises and reducing its stake in publicly listed firms, the state continued to have a majority stake in over two-fifths (45%) of publicly listed firms in 2010, and these accounted for three-quarters (73%) of the employment in the sector and four-fifths (82%) of its output (Bryson et al., 2012a).

State ownership is less common in the economy as a whole. According to the World Bank 2003 Survey, the mean state ownership stake in enterprises was 22%, ranging from 63% in the one-third of organizations which were SOE's, a 20% stake in public listed firms, one-sixth state ownership in cooperatives, and near-zero involvement in privately held firms. Twenty-one percent of corporations were majority state-owned, 12% were majority foreign-owned, and the remainder were majority domestically-owned. The picture that emerges is a far more mixed economy than the one portrayed in the literatures which focus on SOE's and the public listed sector.

It would be surprising if the state did not play a central role in the appointment and dismissal of CEO's in firms that are government-owned. In 2003 the state had direct influence over who was appointed to the CEO position in a quarter of all firms, directly appointing them in 12% of cases and rubber-stamping the firm's nominee in another 13% (Table 1). The role of the state was most prominent in firms that were majority state-owned, of course, with government directly appointing over one-third of CEO's and rubber-stamping firm nominees in another one-quarter of cases. In domestic and foreign firms, it was the Board of Directors that usually made appointments. But state involvement was not unheard of in these firms.
A similar picture emerges from the 2005 survey. This survey only asks whether the CEO was appointed by the government or not. It shows that CEO's were state appointments in around one-tenth (12%) of all firms, ranging from 48% in SOE's to only 2% in foreign-owned firms. It is apparent, therefore, that focusing only on SOE's risks understating the breadth of influence the state had over CEO appointments in China in the early 2000s.

The role of the state extends well beyond its direct role in CEO appointments. Cao et al. (2012) show that the political system offers strong career incentives to CEO's which sometimes compensate for monetary incentives. This does not necessarily mean that politically motivated CEO's operate as "bureaucrats" because political preferment often depends on CEO's demonstrating business success (Xu, 2011).We are able to glimpse the role that political advancement might play in the CEO labour market in China in Table 2 which shows the Communist Party membership of CEO's in 2003. Two-thirds of all CEO's were Party members. The figure varies markedly by ownership status: over nine-in-ten CEO's of SOE's are Party members, compared to two-thirds of those in private domestic firms and only

[3] For a review see Murphy (1999).

one-quarter of those in the foreign-owned sector.[4] Furthermore, many CEO's hold senior positions in the Party, with around one-quarter holding the post of Party Secretary.

The 2003 survey indicates that over half (54%) of CEO's had no experience of being a senior executive before they entered their current position. Those with prior experience had a mean of three years as a CEO elsewhere. Despite the State's role in appointments, few CEO's come directly from political positions, however. The 2003 survey asked respondents: "Before becoming CEO in this firm what was his/her position?" Only 6% of CEO's had been government officials.[5] One-fifth (22%) had been CEO's elsewhere. Over a third had direct firm-specific human capital: one-quarter (27%) had been promoted from the position of Deputy to the CEO, and 8% had held other positions within the firm. The remaining 37% coded the "Other" response. CEO's general levels of human capital are impressive: two-thirds (68%) were graduates and a further 15% were post-graduates.

We have shown that the corporate sector is more heterogeneous than the picture emerging from studies which focus solely on SOEs or public listed firms but that the importance of government in the operation of the labour market extends well beyond the SOEs.

3. Are China's CEO's free to manage and how are they held accountable?

If China's CEO's were simply bureaucrats, paid to perform tasks required by the state, one might expect their behaviours to be governed by procedures laid down by the state, in which case they would have little of the operational autonomy which one normally associates with the position of CEO. Both the 2003 and 2005 surveys ask what degree of autonomy CEO's have over decisions relating to production, investment and employment. The 2005 survey question is preferred here as it explicitly states that autonomy refers to non-intervention by government. As Table 3 indicates, CEO's have a high degree of autonomy over operational decision-making, which means that firms' owners will be concerned to align CEO's interests with those of the firm, whether it be through political preferment, financial incentives, or via the threat of dismissal. Six-in-ten (61%) CEO's score the maximum autonomy score.[6] However, there is quite a lot of heterogeneity across firms both within and across ownership-type. CEO's in SOE's tend to have lower autonomy than those in other firms, with those in the private domestic sector having significantly more autonomy than others.[7]

The corporate governance literature emphasises the importance of the Board of Directors and its composition in ensuring that firms are run in a transparent way and that executives are held to account. Safeguards against CEO malfeasance include the presence of independent executives on the Board who are able to hold executives to account, and the separation of the CEO and Chair of the Board roles to avoid CEO's having undue influence over corporate decision-making. Corporate governance practices in the Chinese public listed sector are well-documented. They show, for example, that firms immediately conformed with the state regulator's requirement that one-third of Board members should be independents when it came into effect in 2003 and that by 2010 Compensation Committees were almost universally adopted by firms to set executive compensation (Bryson et al., 2012a).

[4] The low incidence of Party membership among CEOs of firms that are majority foreign-owned is partially explained by the prevalence of foreign CEOs in such firms. Around three-fifths (57%) of their CEOs are Chinese and, among this group, 44% are Party members.

[5] The figure was 8% in SOEs, compared with 6% in private domestic firms and 1% in foreign-owned firms.

[6] They tend to have more autonomy over production and employment than they do over investment decisions (figures not shown).

[7] We get similar results using the 2003 survey.

The situation is rather different in the economy as a whole. In 2005 fewer than three-quarters (72%) of firms had a Board of Directors. They were particularly uncommon in collectively-owned firms (41%) and SOE's (50%). Where there was a Board of Directors, the CEO also Chaired the Board in half (50%) of all cases. This practice was twice as common in private domestically owned firms as it was in SOE's (67% compared to 34%).[8] These figures compare unfavourably to the public listed sector where only around 12% of firms had CEO's who were also the Board Chair in 2005 (Bryson et al., 2012a: 27). The prevalence of independent directors is also lower once one steps outside of the public listed sector. On average across the economy, only 12% of all Board members were independents, with most firms (68%) having no independent members on their Board.

The low incidence of Boards of Directors, the scarcity of independent members and the relatively high incidence of CEO "duality" raise questions about firms' ability to hold their CEO's to account. Holding them to account requires a credible threat, such as the ability to dismiss the CEO. Respondents to the 2005 survey were asked "Has the company fired or demoted any CEO or Vice CEO in the past four years?" One-fifth (22%) of firms had done so. This is equivalent to a 5 percent chance of being fired or demoted in a given year, a figure which seems non-ignorable but low nonetheless.[9] However, the firms with a Board of Directors carry a bigger threat effect: 25% of firms with a Board of Directors had fired or demoted a CEO or Vice CEO, compared to only 14% of those firms without a Board of Directors.[10]

The low incidence of dismissals partly explains the length of CEO tenure. Mean tenure of current CEO's was a little under 6.5 years in the 2005 survey. In 22% of firms the CEO had been in post for over 10 years. Thus CEO's throughout the Chinese economy tend to remain in post longer than CEO's in the public listed sector (Bryson et al., 2012a) and longer than other employees.[11]

It seems that China's CEOs have substantial autonomy in corporate decision-making but corporate governance structures remain fairly weak and few CEOs face a credible dismissal threat if they perform poorly.

4. Is CEO compensation linked to firm performance and if so, how?

The suspicion that the state appoints "bureaucrats" to CEO positions, together with a common assumption that political advancement is the preferred career path for many CEO's in China, suggests firms may be less likely to resort to incentive pay to resolve principal-agent problems than might be the case in the West. On the other hand, the state has a strong track record in experimenting with incentive structures in SOE's (Xu, 2011; Bryson et al., 2012a, 2012b) and, more recently, in paving the way for the use of stock options and other incentive mechanisms in the publicly listed sector (Bryson et al., 2012a). By the early 2000s, CEO cash compensation in the publicly listed sector was highly sensitive to firm performance and towards the end of the decade firms had begun to adopt stock options (Bryson et al., 2012a;

[8] The 2003 survey paints a similar picture. Only half the firms (50%) had a Board of Directors and, where they did, CEO's also held the Chair of the Board position in almost half (48%) of cases.

[9] The turnover rate in the listed sector is much higher: Bryson et al. (2012a) find that the turnover rate is 0.27 in 2001 and drops to 0.15 ten years later. The 2003 survey asked "Have any executives of the firm been fired due to decisions of the board of directors?" One-third (34%) said yes, but the figure is difficult to interpret since it does not refer to a timeframe.

[10] We also control for past firm performance and divide firms into quartiles based on their profit shares and we find that in each quartile, firms with a Board of Directors carry bigger threat effects.

[11] Surveys from the Chinese integrated human resource services provider 51job Inc. estimate average annual labour turnover at 19.7% over the period 2007 to 2011.

Conyon and He, 2012). But how do these developments relate to the use of incentives elsewhere in the Chinese economy?

The 2005 survey indicates that two-thirds (67%) of firms linked their CEO's annual income directly to the company's performance (Table 5). What's more, in one-quarter (23%) of firms these were "high powered" incentives in the sense that more than 10% of the CEO's annual income depended on whether or not the company's performance hit the agreed target. These contracts were common across all ownership types, though they were less common in foreign-owned firms than elsewhere.

Performance-based contracts widened the distribution of cash compensation within the firm. In the absence of incentive contracts, around half (52%) of CEOs had an annual income at least twice that of mid-level managers.[12] This figure rose to 61% where CEO's were on low powered incentive contracts and to 80% when they were on high powered incentive contracts.

The 2003 survey contains more detail on the means by which firms can link CEO compensation to firm performance (Table 6). It distinguishes between being on an incentive plan which links CEO income to performance (what we term an incentive contract); receipt of a wage paid annually which, under the Chinese system, is a method of paying annual bonuses; and the payment of an upfront bond by the CEO which is recovered if the CEO meets the performance targets set under the contract. One-quarter (28%) of CEO's in the survey were on incentive contracts. In most cases annual income was linked to performance measured in terms of both profits and sales. One-fifth (19%) of CEO's were on annual pay contracts, and 10% paid a performance bond. Taken together, two-fifths (42%) of CEO's had their pay subject to performance based on at least one of these mechanisms and 15% were subject to more than one of these links between income and performance. These figures are lower than the incentive contract incidence in the 2005 survey, due in part to differences between the two samples and the survey questions[13], but the 2003 survey confirms that the incidence of incentive-based contracts for CEO's was lowest in foreign owned firms.

In keeping with the findings from the 2005 survey, these incentives were often high powered. The median elasticity of pay with respect to company performance was 1.[14] The performance bonds paid by CEO's often constituted a sizeable proportion of their total annual income (Bryson et al., 2012b).

The 2003 survey also asked whether CEO's held company stock, another potentially important way in which CEO's performance can affect their wealth. Almost a third (30%) of CEO's held stock. In 13% of domestically owned private firms the CEO actually held a majority stake in the firm as owner-manager.

The four incentive mechanisms identified in the 2003 survey are positively and significantly correlated, suggesting that they may complement one another, rather than operate as substitutes.[15]

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[12] Respondents were asked "How many times more is the CEO's annual income than that of mid-level managers?" with a note explaining "annual income includes salary and bonus".

[13] For example, average firm size is lower in the 2003 survey.

[14] Respondents were asked how much the CEO's income would increase if the performance measure increased by 1%. They were asked this for the first and second most important measures of performance used to make the decision. They were also asked the same question in relation to decreases in performance. Thus there are four questions asked. In each case the median elasticity of pay to performance was 1.0.

[15] The correlation coefficients for a CEO incentive contract and other incentive mechanisms are all statistically significant at a 99% confidence level and are: annual pay contract (bonuses) 0.29; performance bond 0.16; holds company stock 0.09. The correlation coefficients for annual pay contract and a performance bond is 0.05 and its correlation with performance bonds is 0.09. Again, both coefficients are statistically significant at a 99% confidence level. The only correlation that is not statistically significant is that between a performance bond and stock holding (0.003, p 0.87).

Although one cannot directly compare the incidence of incentive pay contracts in the 2003 and 2005 surveys, this section clearly demonstrates that incentive payments are widespread among CEO's in China, that that they take a variety of forms but appear complementary to one another, and that the link between pay and performance is quite substantial.

5. Influences on CEO compensation

The overall impression from the two surveys is that incentive contracts were widely used to link CEO income to company performance in the early 2000s and that, in many instances, these were high powered incentives which placed a sizeable percentage of CEO income at stake. However, there is quite a bit of variance in their usage, as is clear from the cross-tabulations with ownership. In this section we use multivariate models to account for the variation in the use of incentive contracts across firms. We anticipate the use of incentive contracts to reward CEO's will vary with other firm characteristics (size, industry etc., location), the firm's corporate governance arrangements, other policies used by the firm such as the threat of dismissal, and the characteristics of the CEO.

Models therefore take the following form:

1) $$Comp_{if} = \beta_x CG_f + \beta_y Ind_i + \beta_z X_f + \varepsilon_{fi}$$

where $Comp_{if}$ is a dummy identifying contracts linking pay to performance for CEO *i* in firm *f*; CG_f is a vector of corporate governance variables in firm *f*; Ind_i are individual CEO demographic and job attributes; and X_f are structural firm attributes; epsilon is the error term and the betas are coefficients to be estimated. In practice, the absence of panel data means that we observe only one CEO per firm and so the *i* and *f* are non-separable.

We test for the joint significance of each block of variables, as well as discussing the significance of individual variables.

Because the sampling and populations are very different we run separate models for the 2005 and 2003 data sets. We present linear estimates with standard errors clustered to account for city-level sampling. There are two variants of the model specification for the 2003 data. The first mimics the specification for the 2005 analysis. The second extends the model to accommodate some variables that are only available in 2003, such as Communist Party membership. Furthermore, we use the richer data on the nature of incentives in the 2003 data to run the models on three variants of the incentive contract, namely: a simple dummy identifying whether the CEO has a contract linking pay to firm performance; a dummy variable identifying any of the three incentive forms of contract (a link to performance; an annual bonus; and a performance bond); and finally a count of up to three identifying the number of types of incentive mechanism to which the CEO is subject. Table 7 presents the factors associated with CEO incentive contracts in 2005. Table 8 then presents six models using the 2003 survey data. Columns 1, 3 and 5 are model specifications similar to those for 2005 but for each of the three alternative incentive contract measures in turn (paid via a contract linking pay to performance, any of the three types identified, and the count of the three types of incentive contract). Columns 2, 4 and 6 run the same models but include additional controls that are only available in the 2003 data. The models explain between 9 and 13 per cent of the variance in incentive contracts, depending on the model specification and dependent variable.

First we discuss associations with CEO characteristics, then firm characteristics, and finally corporate governance effects.

CEO characteristics

Incentive contracts are often used to attract the best managers to a firm since they can expect to earn more where their pay is a function of their higher productivity (Lazear, 2000). This appears to be the case in China in 2005. The strongest evidence that incentive contracts attract the most talented executives is contained in the educational attainment of CEO's: those employed on incentive contracts were much more highly educated than those who were not. The finding is apparent in both the 2005 and 2003 surveys. Achievement of high status in the Communist Party is often viewed as a marker of ability (Li et al., 2007) so that the positive and significant correlation between being a Party Secretary or Deputy Party Secretary (denoted by "high rank in the CP") and being paid for performance is consistent with the idea that firms use incentive contracts to attract the most talented employees to the position of CEO. However, we can not discount the possibility that status in the Communist Party simply proxies the quality of individuals' political connections which gives them access to the best education and jobs.

Indirect evidence regarding the link between incentive contracts and CEO talent comes in the form of the negative association between payment-for-performance and the appointment of the CEO by government. Again, this is a robust finding across both data sets, and suggests that government may have a direct interest in appointing more "bureaucratic" CEO's capable of achieving political and social objectives, rather than CEO's intent on maximising firm performance.

As noted earlier, one-third of CEO's in the 2003 survey were appointed from within the firm either from the Deputy's position or below. Internal appointments are associated with a higher probability of using an incentives-based contract, perhaps because this induces the most talented internal candidates to step forward into the post in much the same way as a tournament prize might operate. Incentive contracts may also be used to retain talented CEO's. The positive correlation between CEO tenure and the use of incentive contracts in the 2005 survey is consistent with this proposition.

From a principal-agent perspective it only makes sense to incentivise CEO's via a pay-for-performance contract if the CEO has sufficient autonomy to make meaningful operational decisions affecting the firm's fortunes. Both surveys distinguish between CEO's autonomy over decision-making in three domains: production, employment and investment. In the 2005 survey the likelihood of employing a CEO on an incentive contract rises with autonomy over production matters, but falls where the CEO has greater autonomy over investment decisions, while autonomy over employment-related matters (hiring, firing and wages) is not significantly associated with incentive contracts. In 2003, the use of incentive contracts is positively associated with autonomy in employment decision-making, whereas autonomy in production is not significant. But, as in the 2005 survey, the 2003 survey reveals a negative association between investment autonomy and the use of incentive contracts. This negative association between incentive contracts and investment autonomy makes a great deal of sense since principals may be concerned that a CEO's judgement regarding the appropriateness of an investment decision may be clouded by any direct personal interest in the impact of that decision. For example, CEO's may choose to forego investment opportunities in the short-run, even if they are in the best interests of the firm, if making the investment negatively affects the short-term company performance metrics used in an incentive contract to reward CEO's.

Another way to tie CEO fortunes to those of the firm is to offer them company stock. Analyses for 2003 indicate that those CEO's with a minority share in the firm (holding below 50% of the stock) are significantly more likely to be employed on incentive contracts than CEO's with no company stock. In this case stockholding complements other incentives. But CEO's who are majority shareholders are no more likely than those holding no stock to

be employed on an incentive contract, perhaps because they become the principals, rather than the agents, when they are the majority shareholder.

Firm characteristics

The 2005 models contain five firm characteristics: ownership, industry, size, age, and two proxies for exogenous shocks to the firm, namely variance in sales over previous years and the number of power outages that have occurred in the previous three years. The 2003 models contain similar variables but does not contain information on power outages.

The lower incidence of incentive contracts in foreign-owned workplaces, noted earlier in the univariate analyses, is also apparent here. Relative to those firms with majority state ownership, majority foreign owned firms are around 26 percentage points less likely to use incentive contracts. Differences across other ownership types are not statistically significant. This result holds when replacing majority ownership variables with any ownership, with the percentage owned by each owner type, or by the registered ownership status of the firm.[16] The negative significant association with foreign ownership is also apparent in the 2003 data regardless of model specification and across the three incentive contract measures. There is also substantial variance across industries: the industry dummies are jointly significant in both 2005 and 2003.

Rosen (1990: 3) argued that the market will allocate the most talented CEO's to the largest firms "where the marginal productivity of their actions is greatly magnified over the many people below them to whom they are linked". It is not surprising, therefore, that incentive contracts are more prevalent in larger firms in both the 2005 and 2003 data sets.

Having conditioned on firm size, there are no clear predictions as to the relationship between incentive contracts and firm age. There is no significant relationship in the 2005 data, but there is some evidence that older firms are less likely to use incentive contracts in the 2003 survey, albeit for only one of the three measures of incentive pay (Models 1 and 2 in Table 8).

Where firm performance varies with market conditions or exogenous shocks which are beyond the CEO's control, it is in the interests of the CEO and the firm to limit the extent to which executive pay is linked to firm performance (Rosen, 1990). In the 2005 data we proxy the unpredictability of the environment with the coefficient of variation in sales over the previous three years and the average annual number of power outages suffered by the firm in the last three years. Although both are negatively signed they are not statistically significant. Similarly the coefficient of variation in sales was not significant in the 2003 data.[17] Conversely, if market competition makes firm performance more responsive to CEO effort (because the firm will fail if the CEO shirks), we might anticipate a positive relationship between the degree of competition faced by the firm and incentive contracts. In fact, when we entered a dummy variable capturing those firms with strong domestic competition the coefficient was negative and statistically significant.

Corporate governance

Where corporate governance is weak CEO's have an opportunity to "capture" executive pay setting and thus "skim" profits from the firm (Jensen and Murphy, 1990; Bertrand and Mullainathan, 2001). It may also be in their interests to limit the extent to which their pay varies with company performance. Firms' shareholders are likely to be more effective in holding CEO's to account where they have a Board of Directors, where the Chair of the Board is a separate position from the CEO; where the Board's ability to dismiss executives

[16] The alternative models are available from the authors on request.

[17] The coefficient of variation in sales was omitted from the 2003 models presented here because its introduction reduced the estimation sample by 71 cases. The model is available from the authors on request.

for poor performance is credible; and where the Board includes members who are likely to be beyond the direct influence of the CEO, such as independent board members and employee representatives.

Firms with a Board of Directors are more likely to offer incentive contracts than firms without a Board of Directors, as one might expect if they were effective in holding CEO's to account. Whether the CEO holds the position of Chair of the Board or not makes no significant difference concerning the use of incentive contracts. These results are apparent in both the 2005 and 2003 analyses. However, the 2003 survey contains additional information on Board composition which confirms, as anticipated, that incentive contracts are more likely to be used where there are independent Board members and employee representatives on the Board. Indeed, accounting for the presence of independents and employee representatives results in the Board of Director variables becoming statistically non-significant (Table 8, Models 5 to 6).

6. Conclusion

This paper is the first to examine the operation of the CEO labour market across all industrial sectors of the Chinese economy. We do so using World Bank enterprise data for the first part of the 21st Century. Incentive schemes are commonplace and include contracts linking CEO pay directly to firm performance, annual bonus schemes, the posting of performance bonds, and holding company stock. These incentive mechanisms appear to complement rather than substitute for one another. The elasticity of pay with respect to company performance is one or more in two-fifths of the cases where CEO's have performance contracts, suggesting many face high-powered incentives. CEO's also face a real dismissal threat and financial penalties if they fail to deliver.

Incentive contracts are used to attract talented executives. We find incentive contracts attract better educated executives and those with a higher position in the Communist Party, which is often treated as a strong indicator of ability. However, government involvement in the appointment of a CEO reduces the likelihood that the CEO will receive an incentives-based contract, perhaps because governments appoint "bureaucrats" to perform roles which incorporate social and political as well as economic goals. Those CEO's on incentive contracts also have longer tenure, suggesting that they are successful in retaining talented executives.

Firms with good corporate governance are more likely to deploy incentive contracts, confirming that incentive contracts are part of the array of "tools" firms use to hold CEO's accountable. A picture emerges of a well-functioning labour market for executives in China that exhibits many of the traits common to CEO labour markets in the West.

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Table 1: Who Appoints the CEO's?

	Majority Owner:				
	Domestic	**Foreign**	**State**	**No majority**	**All**
Firm nominates, govt approves	11	4	24	9	13
Government appointment	6	2	37	12	12
Board of Directors appoints	40	74	15	67	38
Decided at shareholders' meeting	13	5	1	3	10
Appointed at employees' meeting	1	0	2	0	1
Other	28	15	21	9	25
Unweighted N	1,661	169	503	33	2366

Note: authors' calculations from the World Bank Investment Climate Survey 2003. Figures are column percentages.

Table 2: Communist Party Position of CEO's

	Majority Owner:				
	Domestic	**Foreign**	**State**	**No Majority**	**All**
Party Secretary	20	9	34	45	23
Deputy Party Secretary	5	1	16	0	7
Committee or Executive Member	11	3	23	6	13
Ordinary member	28	12	19	16	25
Not a member	37	74	8	32	33
Unweighted N	1651	163	505	31	2350

Note: authors' calculations from the World Bank Investment Climate Survey 2003. Figures are column percentages.

Table 3: Job autonomy Among CEO's In China, 2005

Majority ownership status:	Low	Medium	High
State	34	28	38
Collective	21	23	56
Corporation	19	23	58
Private	11	17	72
Foreign	18	21	61
No majority owner	20	25	56

Note: authors' calculations from the World Bank Investment Climate Survey 2005. Respondents asked to score their autonomy using an 8-item scale where 0=1-19% autonomy and 7=100% autonomy. Our scale sums scores on the three issues covered, namely production, investment, employment. Low scores are 0-16; medium scores are 17-20; high score is the maximum 21. Figures are row percentages. N=12,265

Table 4: Incidence of Board of Directors and CEO Duality, 2005

Majority ownership status:	Board of Directors	CEO 'duality'
State	50	34
Collective	41	59
Corporation	79	46
Private	74	67
Foreign	89	28
No majority owner	88	37
All	72	50

Note: authors' calculations from the World Bank Investment Climate Survey 2005. Figures are cell percentages. CEO 'duality' identifies those firms where the CEO is also Chair of the Board of Directors. Unweighted N for Board of Directors is 12,358. Unweighted N for CEO 'duality' is those with a Board of Directors, namely 8,877.

Table 5: Performance Pay Among CEO's In China, 2005

Majority ownership status:	Any	Low Powered	High Powered
State	71	47	23
Collective	64	47	17
Corporation	73	47	25
Private	67	43	23
Foreign	50	31	17
No majority owner	71	44	26
All	67	44	23

Note: authors' calculations from the World Bank Investment Climate Survey 2005. Figures are cell percentages. Respondents asked "Is the CEO's annual income directly related to the company's performance?" Unweighted N=12,242. Follow up questions ask how CEO's income increases/decreases if company performance exceeds/fails the target with 7 categorical responses recording the percentage change running from 1-5% to >61%. "Low powered" identifies incentive contracts with <11% income at stake. "High powered" identifies incentive contracts with 11% or more income at stake. Columns 2 and 3 based on unweighted N=11,938.

Table 6: Types of CEO Performance Pay

	Majority Owner:				
	Domestic	**Foreign**	**State**	**No majority**	**All**
Incentive plan linking income to firm performance	28	20	20	18	28
Annual pay contract (Nian Xin Zhi)	20	26	16	18	19
Performance Bond	11	3	17	9	11
Any of 3 above	42	39	42	39	42
More than 1 of 3 above	15	9	16	6	15
Holds company stock	37	23	8	6	30
Unweighted N	1676	171	519	33	2399

Note: authors' calculations from the World Bank Investment Climate Survey 2003. Figures are cell percentages. For row 1 question: "Does the CEO have any incentive plans linking his/her income to firm performance?" Row 2 question: "Is the CEO's wage paid annually (Nian Xin Zhi)?" Row 3 question: "Did the CEO post a security deposit?" Row 6 question: "Does the CEO own company stocks?"

Table 7: OLS of the Probability that a CEO's Pay is Linked to Performance, 2005

Dependent variable: Whether CEO Pay is Linked to Firm Performance	[1] Coeff.	
CEO characteristics:		
CEO tenure	0.002	**
	[2.50]	
Education of CEO	0.044	***
	[7.92]	
CEO appointed by government	-0.064	***
	[-3.98]	
Production autonomy of CEO	0.014	***
	[3.18]	
Investment autonomy of CEO	-0.016	***
	[-5.70]	
Employment autonomy of CEO	-0.003	
	[-0.58]	
Firm characteristics:		
Majority ownership: State	ref.	
Collective	-0.003	
	[-0.13]	
Legal persons	0.015	
	[0.92]	
Private	-0.016	
	[-0.99]	
Foreign	-0.203	***
	[-8.58]	
No majority ownership	-0.021	
	[-0.74]	
Size (Log of employees)	0.028	***
	[7.72]	
Age (Log of years)	-0.006	
	[-0.84]	
Coefficient of variation in sales, last 3 years	-0.016	
	[-0.84]	
Number of power outages annually	-0. 010	
	[-0.49]	

Continued

Table 7 continued

Dependent variable: Whether CEO Pay is Linked to Firm Performance	[1] Coeff.	
Corporate governance:		
Type of Board of Directors (BOD): None	ref.	
BOD with CEO/Chair separation	0.044	***
	[2.96]	
BOD with CEO/Chair duality	0.035	***
	[2.71]	
CEO fired or demoted in last 4 years	0.057	***
	[5.52]	
Constant	0.412	***
	[7.00]	
Adjusted-R2	0.088	
Obs	11817	

OLS regression. Model also incorporates industry and city dummies.
t statistics appear in brackets
* p<0.10, ** p<0.05, *** p<0.01

Table 8: OLS Models for CEO Incentive Contracts, 2003

Dependent variable: Incentive contracts	[1] Coeff.		[2] Coeff.		[3] Coeff.		[4] Coeff.		[5] Coeff.		[6] Coeff.	
CEO characteristics:												
CEO tenure	0.001		0.001		0.002		0.002		0.001		0.001	
	[0.60]		[0.72]		[0.51]		[0.56]		[0.28]		[0.32]	
Education: Less than graduate degree												
Has graduate degree	0.082	**	0.074	*	0.056		0.046		0.123	**	0.102	*
	[2.34]		[2.08]		[1.54]		[1.24]		[2.23]		[1.79]	
Has postgraduate degree	0.153	***	0.147	***	0.149	***	0.138	***	0.313	***	0.29	***
	[4.67]		[4.38]		[3.76]		[3.45]		[5.45]		[4.99]	
Production autonomy of CEO	0.004		0.004		0.003		0.004		-0.007		-0.005	
	[0.43]		[0.51]		[0.40]		[0.53]		[-0.48]		[-0.38]	
Investment autonomy of CEO	-0.021	***	-0.022	***	-0.021	***	-0.022	***	-0.026	**	-0.028	**
	[-3.02]		[-3.11]		[-3.23]		[-3.39]		[-2.18]		[-2.26]	
Employment autonomy of CEO	0.01	*	0.012	*	0.002		0.004		0.018		0.022	*
	[1.76]		[2.09]		[0.20]		[0.50]		[1.54]		[1.89]	
CEO appointed by government	-0.045		-0.045		-0.09	***	-0.093	***	-0.156	***	-0.165	***
	[-1.45]		[-1.37]		[-4.25]		[-4.52]		[-3.65]		[-3.76]	
Firm characteristics:												
Majority ownership: Domestic	ref.		ref.		ref.		ref.		ref.		ref.	
Foreign	-0.179	***	-0.137	***	-0.113	*	-0.098		-0.278	***	-0.245	***
	[-3.67]		[-3.22]		[-1.90]		[-1.65]		[-3.83]		[-3.29]	
State	0.047		0.04		0.026		0.016		0.047		0.029	
	[1.33]		[1.19]		[0.72]		[0.46]		[0.80]		[0.50]	
No majority ownership	-0.167	**	-0.139		-0.118		-0.109		-0.312	*	-0.296	*
	[-2.13]		[-1.64]		[-1.03]		[-0.95]		[-1.98]		[-1.76]	
Size (Log of employees)	0.017	**	0.016	**	0.026	***	0.022	**	0.053	***	0.045	***
	[2.73]		[2.33]		[3.48]		[2.59]		[4.32]		[3.50]	
Age (Log of years)	-0.039	**	-0.049	***	-0.005		-0.014		-0.006		-0.026	
	[-2.47]		[-3.00]		[-0.30]		[-0.86]		[-0.26]		[-0.97]	

Continued

Table 8 continued

Dependent variable: Incentive contracts	[1] Coeff.		[2] Coeff.		[3] Coeff.		[4] Coeff.		[5] Coeff.		[6] Coeff.	
Corporate governance:												
Type of Board of Directors (BOD): None	ref.		ref.		ref.		ref.		ref.		ref.	
BOD with CEO/Chair separation	0.093	***	0.002		0.094	**	0.012		0.175	***	0.006	
	[3.26]		[0.07]		[2.35]		[0.29]		[2.92]		[0.10]	
BOD with CEO/Chair duality	0.069	**	-0.035		0.12	***	0.023		0.162	***	-0.034	
	[2.85]		[-1.55]		[4.37]		[0.78]		[4.74]		[-0.93]	
Senior executives have previously been fired	0.163	***	0.161	***	0.145	***	0.145	***	0.279	***	0.277	***
	[5.97]		[5.54]		[5.78]		[5.54]		[7.00]		[6.58]	
Additional controls only available for 2003 data:												
CP status: not a CP member			ref.				ref.				ref.	
High rank in CP			0.019				0.045				0.089	**
			[0.86]				[1.70]				[2.23]	
CP Member			-0.014				-0.021				-0.02	
			[-0.64]				[-0.82]				[-0.45]	
CP status missing			0.005				-0.01				-0.07	
			[0.06]				[-0.07]				[-0.35]	

Continued

Table 8 continued

Dependent variable: Incentive contracts	[1] Coeff.		[2] Coeff.		[3] Coeff.		[4] Coeff.		[5] Coeff.		[6] Coeff.	
Stock ownership: no stock	ref.		ref.		ref.		ref.		ref.		ref.	
CEO owns 1-49% of stock			0.043				0.04	*			0.07	**
			[1.65]				[1.75]				[2.28]	
CEO owns 50%+ of stock			-0.004				0.008				0.005	
			[-0.11]				[0.19]				[0.08]	
Don't know how much stock CEO owns			0.136	*			0.2	***			0.357	**
			[1.96]				[3.38]				[2.54]	
Promotion from within			0.04	**			0.026				0.065	
			[2.42]				[1.00]				[1.44]	
Independent member(s) on Board			0.067	***			0.064	**			0.152	***
			[4.07]				[2.85]				[3.37]	
Employee rep on Board			0.127	***			0.108	***			0.211	***
			[5.70]				[4.59]				[4.82]	
CEO experience before current post			-0.003	*			-0.004				-0.001	
			[-1.82]				[-1.08]				[-0.31]	
Chinese			0.019				-0.057				-0.109	
			[0.45]				[-1.19]				[-1.17]	
Constant	0.17	**	0.156	*	0.253	***	0.321	***	0.216	*	0.335	**
	[2.45]		[1.85]		[3.32]		[3.93]		[1.83]		[2.27]	
Adjusted-R2	0.109		0.124		0.089		0.101		0.109		0.128	
Obs	2203		2203		2203		2203		2203		2203	

OLS regressions. All models incorporate industry and city dummies.
Model 1, 2: Dependent variable is "paid via a contract linking pay to performance."
Model 3, 4: Dependent variable is "Whether or not three types of incentive contracts (incentive plan linking income to firm performance, annual pay contract (Nian Xin Zhi) or performance bond) identified."
Model 5, 6: Dependent variable is "the count of the three types of incentive contract."
t statistics in brackets
* p<0.10, ** p<0.05, *** p<0.01

Data Appendix

We use data from two World Bank Enterprise Surveys (www.enterprisesurveys.org). Our primary data source is the 2005 World Bank Investment Climate Survey undertaken by the National Bureau of Statistics in China. It covers 12,400 firms located in 120 cities throughout China. One hundred firms are surveyed in each city except in the four largest cities (Shanghai, Tianjin, Beijing and Chongqing) where 200 were surveyed. All provincial capitals are sampled together with cities selected based on the economic size of the province. Firms were randomly selected within the ten largest industries in each province (by value added). Consequently, the survey covers all major cities and is broadly representative of China as a whole.

We also use the World Bank Enterprise Survey from 2003. This comprises a sample of 2,400 enterprises from 18 cities: 150 from each of 12 larger cities and 100 from each of 6 smaller cities. Of the cities surveyed, four are in the northeast (Benxi, Changchun, Dalian and Harbin), four along the coast (Hangzhou, Jiangmen, Shenzhen and Wenzhou), four in the central region (Changsha, Nanchang, Wuhan and Zhengzhou), and six in the western region (Chongqing, Guilin, Kunming, Nanning, Lanzhou and Xi'an). Both surveys are completed by the most senior manager at the firm. The rationale for using both surveys is two-fold. First, although smaller than the 2005 survey, the 2003 survey contains information on aspects of executive compensation and corporate governance which are absent from the 2005 data. Second, the sample frames are different for the two surveys. For example, the 2003 survey consists of smaller firms, and they are not drawn from the same locations as the 2005 survey. Thus running similar multivariate analyses on both samples provides an opportunity to establish the external validity of findings based on the 2005 survey. Simple descriptive statistics from the two surveys are presented below.

In both surveys the term "General Manager" is used to identify the CEO, but throughout the paper we refer to this executive as the CEO.

Appendix Table A1: Descriptive statistics, 2005

Variable	Obs	Mean	Std. Dev.	Min	Max
Whether CEO Pay linking to Firm Performance	11817	0.669	0.470	0	1
Corporate governance:					
Type of Board of Directors (BOD): No BOD	11817	0.279	0.449	0	1
BOD with CEO/Chair separation	11817	0.357	0.479	0	1
BOD with CEO/Chair duality	11817	0.364	0.481	0	1
Fire or demotion of CEO, last 4 years	11817	0.222	0.416	0	1
CEO characteristics:					
CEO tenure (years)	11817	6.399	4.721	1	56
Education of CEO	11817	5.575	0.994	1	7
CEO appointed by government	11817	0.119	0.324	0	1
Production autonomy of CEO	11817	7.410	1.490	1	8
Investment autonomy of CEO	11817	6.868	2.054	1	8
Employment autonomy of CEO	11817	7.305	1.587	1	8
Firm characteristics:					
Majority ownership: State	11817	0.131	0.337	0	1
Collective	11817	0.082	0.275	0	1
Legal persons	11817	0.259	0.438	0	1
Private	11817	0.367	0.482	0	1
Foreign	11817	0.130	0.337	0	1
No majority ownership	11817	0.031	0.174	0	1
Size (Log of employees)	11817	5.619	1.473	1.8	13.5
Age (Log of years)	11817	2.277	0.786	1.1	4.9
Coefficient of variance in sales, last 3 years	11817	0.324	0.251	0	1.7
Number of power outages annually (divide by 100)	11817	0.114	0.239	0	4
Industry: Petroleum	11817	0.014	0.119	0	1
AgProcess	11817	0.079	0.269	0	1
BlackMetal	11817	0.040	0.196	0	1
ChemFiber	11817	0.004	0.063	0	1
ChemMat	11817	0.116	0.321	0	1
ClothShoeHat	11817	0.017	0.127	0	1
ColorMetal	11817	0.028	0.164	0	1
CommunicateEquip	11817	0.046	0.210	0	1
Craft	11817	0.009	0.093	0	1
DrinkManufacture	11817	0.014	0.117	0	1
EduSportGood	11817	0.003	0.057	0	1
Electronics	11817	0.069	0.254	0	1

Continued

Appendix Table A1 continued

Variable	Obs	Mean	Std. Dev.	Min	Max
FoodManufacture	11817	0.020	0.140	0	1
Furniture	11817	0.004	0.067	0	1
GeneralEquip	11817	0.087	0.282	0	1
Instruments	11817	0.005	0.069	0	1
Leather	11817	0.012	0.107	0	1
Medical Equip	11817	0.034	0.182	0	1
Metal	11817	0.030	0.170	0	1
NonMetal	11817	0.105	0.306	0	1
Paper	11817	0.019	0.137	0	1
Plastic	11817	0.027	0.163	0	1
Printing	11817	0.005	0.069	0	1
Recycle	11817	0.000	0.016	0	1
Rubber	11817	0.002	0.040	0	1
SpecificEquip	11817	0.040	0.196	0	1
Textile	11817	0.077	0.267	0	1
Tobacco	11817	0.003	0.059	0	1
TransEquip	11817	0.079	0.270	0	1
WoodProcessing	11817	0.011	0.105	0	1

Appendix Table A2: Descriptive statistics, 2003

Variable	Obs	Mean	Std. Dev.	Min	Max
Paid via a contract linking pay to performance	2203	0.286	0.452	0	1
Any of the three types identified	2203	0.429	0.495	0	1
The count of the three types of incentive contract	2203	0.606	0.796	0	3
Corporate governance:					
Type of Board of Directors (BOD): No BOD	2203	0.489	0.500	0	1
BOD with CEO/Chair separation	2203	0.268	0.443	0	1
BOD with CEO/Chair duality	2203	0.243	0.429	0	1
Fire experience of senior executives	2203	0.176	0.381	0	1
CEO appointed by government	2203	0.124	0.330	0	1
CEO characteristics:					
CEO tenure (years)	2203	5.730	4.223	1	33
Has graduate degree	2203	0.680	0.466	0	1
Has postgraduate degree	2203	0.155	0.362	0	1
Production autonomy of CEO	2203	7.082	1.699	1	8
Investment autonomy of CEO	2203	5.694	2.624	1	8
Employment autonomy of CEO	2203	6.568	2.135	1	8
Firm characteristics:					
Majority ownership: Domestic	2203	0.698	0.459	0	1
Foreign	2203	0.070	0.255	0	1
State	2203	0.218	0.413	0	1
No majority ownership	2203	0.014	0.118	0	1
Industry: Clothing	2203	0.147	0.354		
Food	2203	0.029	0.168	0	1
Metals and machinery	2203	0.064	0.245	0	1
Electronics	2203	0.225	0.417	0	1
Chemicals and pharmaceuticals	2203	0.036	0.187	0	1
IT services	2203	0.084	0.277	0	1
Telecommunications	2203	0.003	0.052	0	1
Accounting and finance	2203	0.069	0.253	0	1
Advertising and marketing	2203	0.064	0.244	0	1
Other services	2203	0.112	0.316	0	1
Auto and auto components	2203	0.168	0.374	0	1
Size (Log of employees)	2203	4.869	1.495	0.0	11.2
Age (Log of years)	2203	2.297	0.885	0.7	4.0

Continued

Appendix Table A1 continued

Variable	Obs	Mean	Std. Dev.	Min	Max
Additional controls only available in 2003					
CP status: Not member	2203	0.326	0.469	0	1
High rank in CP	2203	0.420	0.494	0	1
CP Member	2203	0.241	0.428	0	1
CP status missing	2203	0.013	0.112	0	1
Stock ownership: No stock	2203	0.695	0.461	0	1
CEO owns 1-49% of stock	2203	0.181	0.385	0	1
CEO owns 50%+ of stock	2203	0.102	0.302	0	1
Don't know how much stock CEO owns	2203	0.022	0.148	0	1
Promotion from within	2203	0.356	0.479	0	1
Independent member(s) on Board	2203	0.166	0.372	0	1
Employee rep on Board	2203	0.235	0.424	0	1
CEO experience before current post (years)	2203	1.422	2.863	0	22
Chinese	2203	0.959	0.199	0	1

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